[P. 1]

SUMMARY

On the assumption that a woman's physical and mental condition at childbirth is a product of her life-long daily habits and ideas as well as any particular injunctions set up to insure well-being in pregnancy and parturition, the cultural scene was searched to ascertain all possible relevancies.

The farmers of Bang Chan lived in a tropical, rice-growing terrain, annually flooded by the monsoon run-off. Food was plentiful even if cash was not. Except for better housing and equipment, and a greater enjoyment of market novelties, the rich lived much like the poor. The work in the fields by women paralleled that by men. Sharp physical demands, especially at planting and harvest, made them muscular.

At marriage the partners were fully mature and no woman was married against her wishes. The birth of a child was welcomed as leading to higher personal, social, and economic status.

The underlying concepts which explain why the food and other injunctions, both pre-natal and post-partum, and the ritual behavior took their particular forms, are explained.

The human body, harboring multiple immaterial souls, was seen as composed of earth, fire, water, and wind. Illness was caused by intrusive disruption of these four elements, or by soul loss. Food and medicines had properties which could be used to restore balance in the elements. The traditional curers or exorcisers had magical and herbal remedies obtained ritually from a teacher. Since Buddhist phrasings, often read from old texts in weekly sermons, molded Bang Chan's conception of life, the ultimate cause of health or illness was the presence or absence of merit. This determined one's kam (karma), the balance sheet of virtuous actions which one added to, or reduced by sinning throughout successive existences over eons of time.

The Buddhist cosmic view of individuals as separate autonomous beings brought it about that help was the only dynamic relationship possible between people. The bonds established by helping people, on this earth, especially in the tasks of feeding priests, lasted on into successive incarnations. Thus, meritorious people met again and might marry again. Families had continuity over time, and babies were born into the "right"

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278 [563] The Chinese druggists, many of whom stocked among their traditional pharmacopeia a few modern medications, gave out occasionally to their customers information derived from the manufacturer's instructions for use. People with minor indispositions sometimes sought a druggist's advice. He suggested traditional or modern remedies, depending on the wishes of the customer. Thus, the druggists also acted as a bridge to the use of modern remedies.

484 Facets of Social Life Pertinent to Childbearing:

Communication and Transportation

People went to Mīnburī, and less often to Bangkok, to buy, sell, work, or visit relatives. A few adults had never been outside Bang Chan.

494 [484] [206] [493] Along the road buses passed Bang Chan every two or three hours during the daytime only. Mīnburī was a ten minute ride, Bangkok, an hour. Mīnburī had no taxis, and no telephone existed to call a taxi from Bangkok. Two or three persons owned bicycles.

505 484 Within Bang Chan, transportation varied with the season. From June to February travel was entirely by boat, even to a neighbor. A message to a local midwife, for instance, could be carried quickly by a speedy paddler in his skiff. If an emergency trip to the Mīnburī Health Center appeared necessary, a person could be rowed fairly comfortably along the canal that bordered the road. Going by boat to Bangkok, a whole day's row away, or four hours by the motor boat from Mīnburī, was not considered convenient even for passenger traffic, much less for a sick person or a woman in labor.

484 844 [494] The inconvenient time of year was the three month dry season. Boats then could hardly go on the canal that ran through the middle of Bang Chan, while the smaller canals became muddy or even dry. Walking barefoot over sharp stubble in tropical sun was hard. To transport a woman in labor, assuming she could stand it, an improvised stretcher could be made, but to subject her to the jolting bus was usually foolhardy. It was not customary to flag down passing cars. If things went wrong for a woman in labor during the hot, dry season, there was practically no chance of getting her to a hospital, and none of getting modern help to her.

243 Work Habits in the Economy

433 Because of the annual flood the land was admirably suited to growing a single bounteous crop of rice. After all needs for

food, seed, and chicken feed were met, 58 per cent of the crop remained to be sold off for cash (Janlekha 1955:53). Almost every inhabitant was engaged in commercial rice farming. A few teachers, craftsmen, and traders, alone did not farm. Plantings of early and late varieties in different plots spread the toil. Cooperative work or some local hired help assured adequate labor forces at the needed moment. Nevertheless, two heavy work seasons dominated the rice cycle. The first of these, June through August, involved soil preparation and transplanting of the seedlings in long straight rows. In the second season, November into February, the rice was harvested, brought home for threshing and winnowing, then sold or stored. The straw was stacked as buffalo feed. People were anxious during the preparatory and planting season, for rains were fickle and the planning and timing had to be exact. Work was hard and almost grim. Harvest, though perhaps more of a physical strain because people cut the stalks by day, then threshed and winnowed far into the night, was gay and so less taxing emotionally, for the crop had safely passed through the threats of flood, drought, and pest, and "cash was in sight." Haste was necessary because each plot of rice had to be harvested within three or four days of its maturity, and because at that season the canals were drying up rapidly, raising the possibility not only that human backs and not boats would move the crop, but that the buyers themselves could not get their boats in to take the main portion to the urban markets. Then a farmer might have to wait until the canals filled again in June to sell his rice and get his money. Since during the busy seasons everyone from age 16 on up was taken up with farming, the cooking, child care, and other chores were carried on by the aged and the very young. These work days taxed to the limit the strength of all men, women, and even young people. Ten to 18 hours might be spent stooping to transplant or weed, or, at harvest, to cut the rice stalk close to the ground. There was a great deal of heavy lifting of seedling bundles or sheaves. The few professional masseurs in the area said they were kept on the run because of back complaints especially during the periods of heavy labor.

In the periods between these two seasons, tools were repaired, houses rebuilt, and ceremonies organized. Extra cash was earned in various ways. People kept very busy, though they did allow themselves more sleep.

The importance of women's role in agriculture is indicated by their virtual equation with men. In every step of rice-production women worked alongside men, plowing with the buffalo, planting, weeding, harvesting, repairing the dikes, hauling, etc. Only uprooting the seedlings was exclusively men's work (even this was done by women elsewhere in Thailand [Kingshill 1960:73]).

Besides the work in rice-fields, women dug and cleaned

SUMMARY

A general description is given of conditions in a
105 Siamese rice village, 1952-54, as they relate to food supply
26 and food habits. Activities at various seasons of the year
[220] are described. The heavy work seasons occurred during transplanting and harvest. In the dry season, many ceremonials and festivals were held in which food played an important role. Such occasions provided opportunity to "make merit" and add to one's prestige as did the regular offering of food to the priests, throughout the year. The relatively large financial obligations undertaken by those sponsoring ceremonies was a major factor in the economy of the village.

105 Food was mostly home produced and an important factor
262 in the standard of living was the number of productive hands
433 available. Rice was the first essential for any meal. Home milled rice was used, even in part, only by a minority of households. Fish, fresh or preserved, was the food next in importance to rice. Use of flesh foods other than fish was probably inhibited by Buddhist tenets which prohibit the taking of life, but some poultry, oxen, and other flesh foods
[235] were used. Nearly all of the families in Bang Chan raised
[433] chickens, and some raised ducks, but about 3/5 of all eggs
[244] produced were sold. Every family had some sort of kitchen
[245] garden, including banana trees and other plants, but spices and chili were much more commonly grown than vegetables and
[227] fruit. Swamp cabbage, the green leafy vegetable used most often, grew wild in the canals. A calendar of fresh foods commonly used in Bang Chan is presented.

[443] Cash expenditures for food were small. When canals were navigable, boat venders brought produce and during the busy work seasons farmers often bought fish as well as the usual foods: onions, garlic, limes, coconut, palm sugar and small amounts of vegetables.

[434] Many households increased their income by the sale of
[178] eggs, vegetables gathered from the canal and other items. Culture of tilapia and mushrooms, begun during the period of study, was undertaken by a considerable number of farmers between 1953 and 1955. Both enterprises were apparently regarded primarily as a supplementary source of cash rather than as a means of improving the home food supply, and both efforts had been largely if not entirely abandoned by 1957.

105 Preparation of some typical dishes, meal service and
264 techniques of eating are described. For adults, two meals a day were usual, except during the busy work seasons when a third meal might be eaten. Menus were similar for all. Two observations from records of school children were 1) that over 90% of them ate snacks, many of which were bought from venders on the school grounds. Sweets and fruit were the

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132 Bangkok. The tropical monsoon climate divides the year into three seasons, a hot, wet season from late May to November, a cooler, dry season from December to early February, and a hot, 361 dry season from late February to mid-May. The community, scattered over an area of approximately five square miles, was 161 composed of seven neighboring hamlets. In 1954, the population 162 was approximately 1700, divided among 336 households. About 60 per cent of the households were made up of independent families, parents with unmarried children, with an average family [463] size of 5.7 persons. The main occupation of 80 per cent of all families was rice farming.

243 The climate together with the overflowing Chao Phraya [13] river, provided natural conditions for raising a single crop [220] of wet rice. From May or June to February, the principal activities were those connected with rice production. This crop greatly exceeded the needs for local consumption as human food, [433] feed, and seed. The surplus of rice which was sold, was estimated for 1953 as 1.4 times the amount used for all purposes within the village (Janlekha, 1955).

346 Wat Bang Chan, the Buddhist monastery and place for re- 621 ligious exercises, was also the center of social life in the [795] community. When data for this study were being gathered, the one primary school in the village was located on the grounds of the wat. The community was defined simply by the clientele which patronized Wat Bang Chan and this elementary school. [563] Within the area of the community lived a small minority of Thai Moslems who patronized a mosque and school just outside Bang Chan. The few Chinese in the village were considered as part [028] of the Thai-Buddhist community. Information to be presented on food habits refers primarily to habits of the Buddhist majority, although some reference will be made to ways in which Moslem practices differed therefrom.

193 Although for six or more months of the year the fields 243 were covered with water, sometimes to a depth of a meter or 491 more, a year-round road, connecting Bangkok and Minburi, the 484 nearest market town, ran through one edge of the village. Bus 587 service was available along this road, to either Bangkok or [494] Minburi but within the community one went by boat on the network of canals during the wet season, and during the dry season, [503] on foot along the dikes or across fields. From late January through May, when subsidiary canals were apt to be dry, getting about was somewhat difficult. Boat travel was considered easy, but as many families had only one boat, a trip to the store or even to a neighbor's home had to be planned with reference to the activities of other family members.

443 Large scale purchases, as for a ceremony, were always made at a big market, but in general, instead of people going to the market-town, the "market" came to the people. Boat-venders brought not only fresh produce and staples but also sweets, ices, soft drinks, and cooked foods such as Chinese

Seasonal Activities

128 A chart has been prepared to show the climatic conditions in Bang Chan and what people were doing at different seasons (Chart 1). For convenience, the periods covered by the four rounds of the dietary survey (p. 58) are included.

221 The year starts with May, the beginning of the rice-
132 year. At this time the rains began to soften the parched
241 ground, and the heat slackened. School re-opened. Farmers
512 turned to plowing, harrowing, raising the seedlings. Both
371 sexes worked about equally in field labor, boys from 14 and
468 girls from about 15 years of age performing tasks according
513 to skill and strength. Everyone was in the field at dawn.
The buffalo, but not the farmer, rested through the noonday heat (about 10 a.m. until 2 p.m.) and also on the weekly holy
249 day. Meals were usually eaten about 10 a.m. and after returning from the field at dark. Although two meals a day were usual at other times, at this season, some had a third
[20] meal about 2 p.m. If the buffalo were brought home to rest, this meal could be eaten at home, but hired laborers or those working far from home often took with them rice and other foods in a (2)pin-(1)too, or tiered lunch kit.

221 With the rains, the canals had filled, so that by June
132 buyers with big rice boats could return. The few farmers who
501 could afford to hold onto a portion of their last year's crop
sold it for a better price at this time. Vegetables and
24 fruits which had died in the long drought were replaced, and trees were planted.

24 In July the heavy transplanting season began. Because
221 of cooperative work habits or hiring out, people worked
132 solidly day after day for two months on their own or on another's fields. It was dawn-to-dark, back-breaking work.

This was an anxious time. The seedlings had to go in at exactly the right time. Water level was only partly con-
[342] trollable. Lack of rain might be remedied by pumping water from the canals but flooding would drown the plants. School
[371] vacation was scheduled at this time so both teachers and
[857] children could help. Older children might work in the fields,
[871] while younger ones, from 8 to 13, and the aged took over the care of babies and toddlers, fished, cooked, gathered food
[438] for the family and grass for the buffalo. People knew the crop was subject to drought and flood, pests of rats and worms, destruction by birds or wandering buffalo or duck, and in the end to the mysterious fluctuations of the price of rice on the world market. Moreover, some persons worried about debts, acquired from giving a ceremony or making a capital investment and sometimes from heavy gambling during the rest season.

canal misjudged his needs for milled rice and ran out, he had to mill his own paddy. Since the main canal was deepened in 1953, year-round transportation of rice by boat has been possible for many more farmers, and this may further decrease the consumption of home-milled rice.

Of 105 households which had and used a home rice mill, 99 used the polishings for feed but no family in Bang Chan used them for human food (Goldsen and Ralis, 1957). One farmer, headman of a hamlet, who lived near the main canal and the road to Minburi but who used home-milled rice, offered as the reason that the polishings were good chicken feed, and if he took rice to Minburi to be milled, the miller would keep the polishings.

As reported by Janlekha (1955) consumption of milled rice in 106 households amounted to about 285 kilograms per capita per year or 780 grams per person per day. Such "household consumption" includes "losses to pests and poultry, daily gifts to priests, contributions to temples and outlays for feasts and rites in undetermined but considerable amounts" (Sharp et al., 1953, pp. 265-266).

Flesh Foods Other than Fish. - The people of Bang Chan had a taste and appreciation for flesh food, but the production and use of meat was certainly inhibited by Buddhist tenets which prohibited the taking of life.[1] Killing of poultry, fish, etc. was tolerated among the relatively young, but was considered unsuitable to the aged who should be preoccupied with living virtuously. People felt, however, that the sin of taking life was condoned if they offered part of an animal to the priests.

Since many villagers were unwilling to slaughter buffaloes even when they become aged and useless, such animals were commonly kept until they died. Animals which had died of old age or disease were not, however, regarded by Thai Buddhists in Bang Chan as unfit for human consumption. Usually they were cut up and given to the priests. When the buffalo belonging to one family (Household 67)[2] participating in the dietary survey died, some of the meat was used fresh for curry, much

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1. Meat such as water buffalo and pork as well as fish was sold by venders. Since meat was relatively expensive and was usually used in small amounts with other foods, it was offered for sale in chunks which no longer resembled the living animal. Seeing such small quantities spared the sensibilities of the Buddhists who were thus removed a step from the killing. Actual butchering was done by Moslems or Chinese who did not object.

2. Households were identified by numbers assigned by lot.

which the leafy vegetable (2)phag (2)ka-(2)cheed is one, and digging a deep hole at its entry. At the proper time the opening was plugged. The fish grew in the pool and were taken as needed, sometimes, for convenience, several at a time, to be kept alive in a large pot near the house. By draining the pond fish were "harvested" (p. 12). Yields varied, but villagers had the impression that they had declined considerably over a period of years.[1] In 1952, at the suggestion of FAO, the Thai government tried to increase the supply by introducing tilapia culture. During the first three years of the experiment about one-third of the families in Bang Chan had tried to raise tilapia, but in the summer of 1957 members of the research group were told that no one had persisted (see Appendix A, p. 101).

Eggs. - Chickens were raised by about 90% of the families in Bang Chan, and over 70% owned 10 or more. In contrast, only 37% of the households had ducks, and only 13% had 10 or more (Goldsen and Ralis, 1957, p. 56). Ducks were regarded as trouble makers. Moreover, chickens could feed "naturally" and certainly helped themselves to paddy from the bin, whereas ducks did not eat paddy, but had to be provided with bran and broken rice.

Most of the eggs produced were sold. Janlekha (1955) estimated the annual production of chicken eggs in Bang Chan as 366,540, and that of duck eggs as 268,200 eggs. According to the information which Janlekha obtained from 106 households in 1953, about 4/5 of the chicken eggs were sold as a secondary source of farm income whereas more than 3/4 of the duck eggs were home consumed. Slightly over 2/5 of all eggs produced in the village were consumed there. On a per capita basis, the average annual consumption of 708 eggs for an average family size of 5.7 persons (Janlekha, 1955) amounted to a little over 1/3 of an egg per day. Home consumption of eggs might be less in households in which enough chickens were raised to make regular sale of eggs possible. Thus in 5 of the 31 households studied by Sharp et al. (1953, p. 197) all hen's eggs produced were consumed at home.[2] For these families, an average of 452 eggs per family per year or about 1-1/4 egg per family per day, were thus available. Home consumption in the 26 families which sold eggs amounted to an average of 215 per year or about 0.6 egg per family per day. One informant commented that a rich man could eat an egg every day, but she could not afford to do so. She said she sold eggs, when she had them, and bought foods to eat with rice.

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1. Sharp et al., 1953, pp. 191-192.

2. This probably means that eggs were not sold in quantity, not that none were used in barter (cf p. 5); thus the number of eggs available may be overestimated.

244 Vegetables and Fruit. - Although kitchen-gardening has been encouraged by the Thai government, vegetables and fruit were grown in Bang Chan to a limited extent only. Every family had some sort of kitchen garden, but many edible plants which can be grown in the village were grown by relatively few families. The list of fruits grown in Bang Chan in 1948-49 (Sharp et al., 1953) included four times as many items as were grown by one or more of the 11 families that participated in the dietary study. The list of vegetables and spice plants grown or gathered by these families included 27 items, as compared to 41 listed by Sharp et al. Spices and chili were more commonly grown than vegetables and fruit.[1]

244 One affluent household whose food expenditures for 1949
245 were reported by Sharp et al., (1953, pp. 214-215) produced
433 for home use, 125 kg. of palm sugar valued at 200 baht and 500 coconuts, valued at 450 baht. Home production of both of these was unusual. Few families in Bang Chan grew either sugar palms or coconut palms and expenditures for coconuts and palm sugar were usual. During the major flood of 1942, villagers noted that coconut palms survived whereas all other fruit trees were destroyed. After this, a number of farmers planted coconut palms, but they had not yet begun to produce.

361 In 1954, about 120 acres (300 rai) of the total of about
311 2800 acres (7000 rai) of land in the village were used for
351 home sites and home gardens for 336 households. Individual home sites usually varied in area from about one-quarter to one acre, and were occupied by buildings, threshing floor and space for poultry as well as trees and garden space. Portions of this might be under water for several months of the year. Increased home production of fruit and vegetables would in many cases necessitate increasing the size of the home site by purchase, mounding or both. Ordinarily, increased land for the kitchen garden was obtained at the expense of some of the

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245 1. In a typical farm garden in Bang Chan one would find
249 bananas growing, and a number of plants used for seasoning curry. Various kinds of chilies, lemongrass, bergamot, of which both rind and leaves are used, and galangal were grown by all families who participated in the dietary study. Both sweet and hairy basil were commonly grown. Many families grew
262 one or more varieties of gourds and of eggplant, some of which can be trained to grow on a tree or trellis. The inflorescence of the banana was also used as a vegetable. Leafy vegetables were not commonly cultivated but some families grew
262 (2)phag (2)ka-(2)cheed, a green water plant, in gardens staked
262 out at the edge of the canal, or in a pool, and some had trees,
262 the leaves of which were edible. Swamp cabbage or (2)phag
262 (3)bung grew wild along the edge of the canals and was the most commonly used green leafy vegetable. A few families
245 grew guava, jujube, star gooseberry, Manila tamarind, mango and pineapple.

rice land. Water-ways, however, were public areas, and any convenient wide spot might be selected as a private garden. It was marked with stakes, and was apparently not disturbed by others.

Mushroom culture as a side line activity of rice farmers developed during the period when this study was in progress. After threshing, in early 1954, two of eleven families that participated in the dietary study started raising mushrooms. Although most of these were sold, both families reported frequent inclusion of mushrooms in the family diet. One informant commented that families that planted mushrooms also ate them almost every day, and said "Adults complain that it is a wearisome food but children still like it." Mushrooms were used fried, with pork, in soup or in curry.

As with tilapia, mushroom culture appears to have been undertaken primarily to increase cash income, and was abandoned when it was no longer profitable financially (see Appendix A, pp. 101-102).

Food Purchased and Cash Expenditures for Food

Relatively few foods were purchased, but some of these, such as onion, garlic, limes, tamarind, coconut and palm sugar were so frequently used that without cash to buy them, villagers would have considered their diet monotonous. Many had their own supply of fresh and dried chilies, fishsoy, and shrimp paste, which might, however, be inadequate for their needs. Other foods not commonly produced in Bang Chan were purchased for variety.

Estimates of mean annual consumption and cost of purchased foods, for 106 households in Bang Chan are shown in Table 1.

The list of purchased foods presented by Janlekha (1955) was compiled after preliminary interviews with a number of household heads. It includes the principal food items which were commonly purchased in Bang Chan. In addition to these, the affluent household studied by Sharp et al. (1953) spent appreciable amounts for vegetables (listed as cucumbers, lettuce, cabbage, etc.) and fruit (pineapple, mangoes, melons, etc.) and small amounts for peanuts, soy sauce and vinegar sauce. Eggplant and white radish were bought by more than half the families that participated in the dietary study, and were used on 11 and 8 survey days respectively. Other vegetables and fruits, bought by one or two of the 11 families, and used on not more than 3 of the 44 survey days were: mung beans, snap beans, bean sprouts, Chinese celery, cucumber, leeks, lettuce, mushrooms, sugar cane, sweet potato, taro, turmeric, (2)ma-(1)faj or rambai, Thai nutmeg, orange, pineapple, rambutan, sandorica and watermelon. Salted and pickled white radish and pickled bamboo shoots were the only

[Text continues on page 23--- Analyst]

in 1955 (Goldsen and Ralis, 1957, p. 57) said they drank whiskey often, 22% drank occasionally, 47% seldom, and only 22% said they never drank it.

Sale of Home Produced Foods

Although a majority of the families in Bang Chan made most of their cash income by rice farming, sale of other home produced foods, fish, and food materials such as swamp cabbage and lotus stems which grew wild in the canals was a minor but relatively steady source of income for many families. Six of the 11 families that participated in the dietary study obtained some income from sale of food[1]. The woman frequently had major responsibility for these activities. As noted by Sharp et al. (1953), a few poor families only, added to their income by selling fish.

In connection with this study, our concern with sale of home produced foods is primarily with the nutritional rather than the economic aspects,[2] although the two cannot be completely dissociated. Do activities of this sort on the part of some families make a greater variety of foods available to the villagers as a whole? Are some foods sold for cash which from the nutritive standpoint, might well be kept for home use? If so, is the cash thus obtained used to purchase other foods or non-food items? Is the food purchased as useful, from the nutritive standpoint, as that sold? From the standpoint of improving the nutritive value of the diet of Bang Chan families in general, would more home production of fruits, vegetables, fish and eggs by most families be feasible, or should a few families be encouraged to develop these activities on a year round basis, to increase the local supply of food other than rice? Questions of this sort must be considered by anyone attempting to improve food habits in the village.

Annual Calendar of Foods Commonly Used

From the records extending over the period of a year, of foods used by various families participating in the dietary study, and from food records provided by children in the health classes in December 1952, February, May, June, July, September, October and November 1953 and January 1954, a calendar has been constructed showing the approximate times of year at which the foods most commonly used in Bang Chan were available (Chart 2). Foods included in this chart were

1. See Table 8, p. 62.

2. See Janlekha (1955).

[Text continues on page 29 -- Analyst]

Table 5. Diet Classifications for 75 School Children in Bang Chan, and Percentage of Children with Each Diet Classification who Missed Lunch

(Adapted from Thorangkul, 1957)

Diet classification[1]	Percentage of children	Percentage of children who missed lunch	
Class I	8	Boys	46
		Girls	45
Class II	61	Boys	73
		Girls	68
Class III	31	Boys	81
		Girls	98

1. See text for basis of classification.

vegetables eaten, since items from these two food groups were not commonly eaten as snacks. Note, in the illustrative records presented in translation (Appendix A, p. 98), that the child whose diet was considered to be in Class III did not eat a regular lunch on any of the six days for which records were available, whereas the child whose diet was classified as I ate a regular lunch six times out of seven.

Family Food Shared With Others

Throughout the year families prepared especially good meals for persons who came to work cooperatively with them. Every rice-grower entertained his cooperative harvest crew, some the transplanters. Hired laborers were not usually served such feasts, but the conviviality of the harvest season called for a round of liquor even for them. One harvest dinner for 18 cost 50 baht, plus eels (60 baht) and rice. Cooperative home pounding of rice was still practiced in some households and thought to be fun. In one day enough rice to produce 40 tang (640 kg.) was pounded by groups of 15 to 20 workers; in an evening 20 tang were done. If 40 tang were milled, workers were served a full meal; if 20 tang, a dessert only. Other occasions were fish-pond draining, house raising and repair. Each participant in the fish-pond draining at Household 21 was fed (3)khaaw (3)tom (soupy rice) for lunch and "an enormous supper," in addition to receiving the traditional pot of fish. If good food were not served at these functions people

per day were calculated for Groups A and B by Round and for all survey days (24 days for 6 families in Group A, 20 for 5 families in Group B). The total amounts eaten per capita per day, of various food groups, and the relative nutrient contributions of these groups were also calculated.

Results and Discussion

Socio-Economic Situation of the Two Groups of Families Studied

General Socio-Economic Conditions. - In the course of the study the observers were able to obtain information, both by inquiry and direct observation, on the economic condition of the families. Questions about land holdings, the amount of land farmed, number of working buffaloes owned, number of priests to whom food was given and sources of income, were asked during the second Round of the survey, after the participants were acquainted with both the field workers and the procedures. As raw foods were weighed, the observer asked if they were home grown or prepared, and recorded the cost of foods purchased.

Although our sample was not stratified with respect to economic condition, the families in Group B, i.e. those chosen for apparently better nutriture, proved to be more prosperous than those in Group A (Table 8). With the exception of Household 222 in Group A, rice production was the main source of income. Families in Group B had a greater capital investment in land and buffalo, and worked more land, having more productive hands per family available. Farm work was finished sooner, hence members could begin intensive fishing earlier than in Group A. All children aged 13-15, in both groups, did light farm work and/or selling in market, cooking, baby tending and care of buffalo. In all households, husband or wife or both came from old families in the community, hence had extensive kinship relations.

From the viewpoint of parents, the "peak of life" was the time when children were no longer dependent, but productive, unmarried workers whose earnings stayed within the family. Household 16 was such a family, forward looking, progressive and optimistic. The successful and respected couple in Household 25 would enter this "peak of life" situation in a few years. Household 20 included a widower and his almost grown daughter living with his younger brother and the latter's family, and their senile mother, in harmonious cooperation. Ample land, housing, buffalo and farm labor combined with other skills, made for good living. In Household 21, two strong, unmarried sons still lived with their elderly parents. The only poor family, of low status, in Group B, was Household 23. By great industry, especially in

[Text continues on page 63 --- Analyst]

511 appeared to account in large part for the greater cash expenditures of some families than others. Thus Household 25, with the highest total and per capita cash expenditure for food among these 11 families, consumed a larger quantity of meat than others, and often bought beef, which was the most expensive item purchased. This household bought fruit, meat, and vegetables from venders almost every day. They said "Some do not pay money to buy food, but pick or get it from the canal or gardens --this family cannot live like that because they come from a rich family and cannot live on poor food, so most of the money goes for food." The husband said "I cannot work on poor food." In Group A, Household 12, which had the highest per capita food expenditure, had little home produced food. The wife, who went to Bangkok often, usually bought food when in town. Household 2, with a total cash expenditure for food higher than others, did not have pork or beef on survey days, but ate more (1)plaa (1)thuu, a sea fish which is purchased.

433 511 Home Production of Food. - In keeping with the general pattern in the community, the families surveyed produced most of their own food.

243 645 256 262 Rice. - The hired laborer received rice as part of his pay, but all other families produced their own. Seven households used polished rice exclusively (Table 9). The only one to use home pounded rice in major part was Household 103. This family lived near a little canal which was dry in summer, so they were using home pounded rice when visited toward the end of March and in mid-July (Rounds IV and I). When the observer came in January (Round III), transportation of rice to the mill by boat was possible, but the family members had little farm work to do and were willing to spend some time milling rice. This family, which lived in the home-milling area (see p. 40), took rice to be milled only during the harvest season when they were busy, and the level of the canal was still high. The families which used home pounded rice in minor part did not live in the home-milling area, and apparently milled rice at home only when they were unable to get to the mill by boat.

244 534 545 Fruits and vegetables. - Although the Thai government has attempted to encourage kitchen gardening, few vegetables and fruits were produced by the families which cooperated in the dietary study (Table 10). All families grew bananas, and certain common ingredients of curries: chilies, bergamot, galangal and lemongrass. No other plants were grown by as many as half of the families studied.

222 262 Of the edible plants which grew wild, swamp cabbage was used by 7 families on 11 of the 44 survey days. Bamboo shoots, the white flowers of the West Indian pea tree and yellow (2)sa-(5)noo flowers were used by 3 families on one day each;

4:Phillips E-4,5 (1956-1957) 1966
AO7 Central Thai AO7
Bang Chan
Thailand AO1

whole, depends in large part on one's frame of reference.[2] In the most general terms, the people of Bang Chan are like almost all ethnic Thai peasants (excepting on some counts Thai Moslems and some of the economically disenfranchised people of the Northeast) in that they have a keen sense of membership in the nation-state with a deep loyalty to the Crown, speak the Thai language, are Therevada Buddhists, are outwardly highly deferential to the authority of the Central government, and have a conception of the good life that stresses fun, physical comfort and security, intellectual simplicity and practicality, and a moral (as contrasted with a natural) ordering of the universe. Too, like the vast majority of their rural compatriots,[3] they are engaged in the production of rice, an activity which to them is not only an economic operation (Ingram 1955, Janlekha 1955) but almost a way of life, being bound up with their social structure, dietary habits, religious practices, and even their philosophical (J. R. Hanks 1961) and aesthetic conceptions.

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[2] For readers unfamiliar with Thailand, the nation-state, it should be noted that the country is predominantly rural; 84 percent of the total national labor force is in agriculture and there are only ten towns with populations of 20,000 people or more, in which 6 percent of the national population (1947 census) live. Although Bangkok has a population of approximately 1,200,000, the second largest city, Chiengmai, has only 60,000 (1957 estimate).

The nation also has a high degree of ethnic homogeneity, 82 percent of the population considering themselves native Thai (1957 estimate). The largest ethnic minority group is the overseas Chinese, comprising 11.3 percent of the population (1953 estimate, from Skinner 1957), the balance being Malays, Cambodians, and Indians; the so-called tribal groups number in toto only about 150,000 people.

The religious composition of the country is 94.1 percent Buddhist, 3.9 percent Moslem, 0.5 percent Christian, and 1.5 percent "others," many of whom are tribal animists. Thai Buddhism is of the Southern (Therevada, Hinayana, or "Lesser Vehicle") variety and as practiced by most Thai, has syncretized within it many Brahmanic and traditional Southeast Asian animistic elements (see the chapter on "Religion" in Sharp *et al.* 1956, and Textor 1960). The largest minority religion, Islam, is practiced by ethnic Malay living in the four southernmost provinces of Thailand, as well as by some ethnic Thai—many of them descendants of former Malay slaves or war prisoners—scattered through the areas north and east of Bangkok, including Bang Chan, where they comprise 9.8 percent of the local population. Relationships between Buddhists and Moslems, at least in Bang Chan, are quite amicable and except for ideal prohibitions against intermarriage and occasional off-hand remarks such as "Moslem women are loose" or "Moslems kill animals," there is little overt hostility between the two groups. Certainly few Bang Chaners ever distinguish between their Buddhist and Moslem neighbors when arranging a work group, selecting a drinking partner, or even compiling a guest list for a son's ordination.

[3] Janlekha (in Sharp *et al.* 1953: 110) indicates that 55 percent of the total national labor force is involved *solely* in the cultivation of rice—which occupies approximately 90 percent of the total cultivated land area—and as many as 92 percent of all agricultural households are rice households. The 55 percent figure excludes all those people who are involved in the transportation, milling, storing, and distribution of rice. Eighty-five percent of the population of Bang Chan (1953) are rice farmers.

*177
*178
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The Innovations

A. Agricultural Innovations: During the past few years, certain innovations have come to Bang Chan which have increased agricultural productivity and improved the level of living. Some of these innovations are listed below.

402
*177
*178
[241]

1. The small motor. One innovation is the small engine, gasoline motor, which is used mainly as a water-lifting device for irrigation purposes. In 1950 only five small motors were found in Bang Chan.* Twenty-one per cent of the respondents in the 1955 survey, however, report owning these motors; the majority of the respondents (68 per cent) claim to have used this labor-saving device which is sometimes jointly owned by more than one household and is frequently loaned out.**

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434
*177
*178

2. Straw mushroom growing. Three years ago the commercial growing of mushrooms in Bang Chan was unknown. By 1955, the practice of growing mushrooms had reached into many homes (44 per cent of the respondents report that they have engaged in this activity***). Even if no mushrooms have ever been grown in a given household, it is still likely that the individuals in it are aware of the practice and have observed it closely through the mushroom growing activities of their friends, relatives, and neighbors (reported in 43 per cent of the households). Only a few households (13 per cent) report that they have never grown mushrooms or have never been exposed to it in this way.

One advantage in the culture of straw mushrooms is that it permits quickly realized returns. The cycle, from sowing spores in moistened straw to harvesting the mushrooms, takes about two to three weeks. Another advantage is that there is relatively little heavy work or investment required besides the acquisition of straw and spores. A third advantage is a ready market, for the plant is sought by Chinese dealers in Bangkok who supply hotels and restaurants. Bang Chan rice farmers who engage in mushroom growing as a sideline activity sell it either to local middlemen or directly to the Chinese in Bangkok.

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[113] * Sharp, L., H. M. Hauck, K. Janlekha, and R. B. Textor, Siamese Rice Villages, A Preliminary Study of Bang Chan. Thailand, Cornell Research Center, June, 1953.

[125] ** The questions: "Do you own a small engine motor or not? (If "NO"): Have you ever made use of one in your work?"

[125] *** The question: "Have you ever grown mushrooms, or not?"

*178
212
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as apt to adopt the motor irrespective of whether he has been in contact with urban culture.

TABLE 20. ILLITERATE FARMERS* WITH WIDER CULTURE CONTACTS ARE MORE LIKELY THAN OTHERS TO USE THE MOTOR

	Illiterate (Proportion using the motor)		Literate (Proportion using the motor)	
Trips to the airport				
None	38%	(40)	86%	(35)
One or more	63	(49)	86	(83)
Visits to the agricultural fair				
None	50%	(67)	85%	(76)
One or more	57	(24)	88	(43)

*Male farmers only

[562]
[241]
[228]
[244]

However, no such relationship was discerned between these culture contacts and trying out either fertilizer, tilapia, or mushrooms.

*178
121
369
433

Here again, is evidence to support the hypothesis that contacts with urban culture may act as a substitute for literacy in making the farmer more sophisticated about improving his standard of living and level of production. But the data show that such exposure need not result from direct physical contact with urban centers; it can, instead, be a result of indirect contact. Direct physical contact with urban culture, it turns out is effective in increasing the incidence of acceptance of the more complex innovations only for the illiterate farmers of Bang Chan.

*178
121
369
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Friendships

The same reasoning which would lead one to expect a higher incidence of acceptance of innovations among those directly exposed to urban contacts would lead to the companion hypothesis: that inhabitants who have a greater degree of internal contacts with their friends and neighbors might tend to try out innovations to a greater extent than those who remain relatively aloof from such social contacts.

[402]
[228]
[241]
[244]

The data show that such contacts have a limited connection with acceptance of innovations. The incidence of motor use and tilapia raising is higher, it is true, among persons who report a wider sphere of social circulation; but there is little relation between social contacts and willingness to try out fertilizer or mushrooms.

7. I understand that, since the last war, there have been, around here, some introductions of new things in the field of rice farming, other farming, gardening, and fishing in order to raise production. What are these various new things? [177* 178* 125]

1.	Fertilizer	9
2.	Small engine	4
3.	New rice seeds	3
4.	Tilapia	98
5.	Other fish, specified	13
6.	Fish, unspecified	80
7.	Mushrooms	45
8.	Poultry	179
9.	Pigs	21
X.	Other, specify	68
0.	Unascertainable	45

[241] [402] [243] [228] [244] [235] [231]

8. Here, some farmers get a lot more rice from one rai of land than others get. Generally speaking, what are the various reasons why this is so? [243] [433]

1.	Fertilizer	59
2.	Skill of the farmer	63
3.	Quality of the soil	65
4.	Irrigation facilities	125
5.	Type of seed	17
6.	Other reason, specify	53

9.a. When was it more profitable for you to grow rice, this year just finished, or two or three years ago? [243] [434]

1.	This past year	131
2.	No difference	57
3.	2 or 3 years ago	62
4.	Unascertainable	25
—	Does not apply	58

b. If 2-3 years ago: If this is so, then it has become less profitable to grow rice. Such being the case, have you done anything to improve the income of your family?

7.	Yes	36
8.	No	25
9.	Unascertainable	1

c. If yes: what various things have you done?

5.	Nothing	4
6.	Mushrooms	6
7.	Poultry	8
8.	Fish (Incl. Tilapia)	5
9.	Fertiliser	
X.	Other, specify	25
Y.	Unascertainable	2

10.a. Do you own a small engine motor, or not? [402]

1.	Yes	70
2.	No	259
—	No Answer	4

16.a. ASK ONLY FARMERS: This year just now beginning, will you do anything for increasing your income, outside of rice farming? [125] [434]

3.	Does not apply	13
4.	Yes	162
5.	No	107
6.	Unascertainable	11

b. IF YES: What various things will you do? [224]

0.	Nothing	3
1.	Mushrooms	42 [235]
2.	Poultry	51
3.	Fish (Incl. tilapia)	10 [228]
4.	Fertilizer	2
5.	Other, specify_____	84 [241]
6.	Unascertainable	6

17. ASK ONLY FARMERS:

a. Last time you planted rice, how many rai of rice did you plant? [243] [433].

1.	4 rai or less	14
2.	5 to 9 rai	25
3.	10 to 19 rai	49
4.	20 to 29 rai	65
5.	30 to 39 rai	53
6.	40 to 49 rai	32
7.	50 to 59 rai	19
8.	60 to 69 rai	14
9.	70 to 79 rai	2
X.	90 rai or more	—
0.	Unascertainable	20

b. And what was the total yield?

1.	120 tang or less	15
2.	121 to 300 tang	28
3.	301 to 600 tang	59
4.	601 to 900 tang	59
5.	901 to 1200 tang	56
6.	1201 to 1500 tang	25
7.	1501 to 1800 tang	10
8.	1801 to 2100 tang	10
9.	2101 to 2700 tang	7
X.	2701 or more tang	3
0.	Unascertainable	21

c. Now about the year before--how many rai did you plant?

1.	4 rai or less	16
2.	5 to 9 rai	19
3.	10 to 19 rai	51
4.	20 to 29 rai	67
5.	30 to 39 rai	53
6.	40 to 49 rai	26
7.	50 to 59 rai	20
8.	60 to 69 rai	13
9.	70 to 89 rai	5
X.	90 rai or more	—
0.	Unascertainable	23

125
[243]
[433]

17.d. And what was the total yield at that time?

1.	120 tang or less	20
2.	121-300 tang	14
3.	301-600 tang	62
4.	601-900 tang	64
5.	901-1200 tang	50
6.	1201-1500 tang	23
7.	1501-1800 tang	10
8.	1801-2100 tang	8
9.	2101-2700 tang	7
X.	2701 or more tang	4
0.	Unascertainable	31

e. And how many rai did you plant two years back?

1.	4 rai or less	18
2.	5 to 9 rai	17
3.	10-19 rai	45
4.	20-29 rai	72
5.	30-39 rai	52
6.	40-49 rai	26
7.	50-59 rai	18
8.	60-69 rai	12
9.	70-89 rai	4
X.	90 rai or more	—
0.	Unascertainable	29

f. And what was the total yield that time?

1.	120 tang or less	20
2.	121-300 tang	24
3.	301-600 tang	48
4.	601-900 tang	69
5.	901-1200 tang	38
6.	1201-1500 tang	8
7.	1501-1800 tang	7
8.	1801-2100 tang	5
9.	2101-2700 tang	4
X.	2701 or more tang	1
0.	Unascertainable	69

[243]
[435]

18. ASK ONLY FARMERS:

a. Have the changes in the price of rice during the last two or three yea
caused you any worry, or not?

7.	Yes	156
8.	No	104
9.	Unascertainable	33

b. IF YES: What are you doing about it?
(See code at end)

[243]

19.a. Do you, at present, have your own home rice mill, or not?

X.	Yes	105
Y.	No	228

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

59 the establishment of a new family, virtually a new farm. It must be noted in this connection, however, that not all new families started out with financial resources. There are circumstances like incongenial relationship between the dependent couple and their parents or other members of the family, tight financial situation of the old family, or extreme optimism on the part of the young couple themselves that brought about premature fission.

243 The role of the family becomes more outstanding when
433 the following features of rice farming are considered:
59
[423] 1. In Bangchan, as elsewhere in the rice producing areas of Thailand, a farm means rice land available for the family to till because farm income depends more on rice acreage than anything else.

2. An operator is generally not in a position to reallocate his resources in order to obtain higher income. Usually he does not, for example, put in more labor to get a better crop, for crop under existing technology would not increase with more labor than normally used. He does not put in fertilizer, for it is not certain, in his thinking, that profit is assured in so doing. He does try to improve his rice strains for greater yield, however.

[444] 3. The only way to increase income from rice with no change in technology (other than improving strains), then, is to increase acreage utilizing the same amount of family labor. This is the case, as we shall see in a later chapter on farm organization and management, because of the existing under-employment of family labor.

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

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[427]

4. The operator may increase his acreage by renting in more rice land. It is highly improbable that the extra parcel would be one adjacent to the old parcels. This involves extra cost of irrigation and drainage and a buffalo shed. Yet the most important problem is how to lay a hand on the extra parcel, since the practice of most landowners is to rent their land out to their former tenants. When all cultivated land in the village has been tilled, an extra parcel to one naturally means a reduction of the same to another.

5. With limited land which has no prospect of intensification as far as rice production is concerned, the size of the family becomes the limiting factor of the level of living. This is rendered more acute by the customary practice of offspring continuing to live with their parents regardless of their age. When they get married, either spouse's parents are likely to suffer another mouth to feed, and in many cases the babies that will eventually arrive.

It is seen, then, that discussion of rice farming which is the core of the village economy cannot be separated from the context of the family.

443 she wanted to spend more time collecting debts."

221 433 434 443 261 262 It should be noted that A's brief duration of peddling started in the harvesting season. During this time the village cash supply was high, resulting in demand for such a delicacy as pork which normally constituted a negligible fraction of the diet of Bangchan people. This is a good business period for the peddlers. Another good business period, although not as good as the harvesting time, is in the transplanting season, when farmers are too busy to procure their own food (by fishing). In this latter period, farmers are not particular about food, and "anything eatable sells, provided liberal credit is allowed" for people have neither time nor money.

443 It should be noted also that many smaller peddlers did not go to Bangkok as did Nang A. The small peddlers, who operated on a very limited working capital, had to sell their eggs to larger peddlers at discounted prices. Our records show that only three or four peddlers took regular trips to Bangkok.

427 434 454 621 463 426 Five families were classified as investors in 1953. All these families lived on rents from land, interest on loans, and income from speculative sources such as buying paddy when the price was low and selling it at high prices. Actually, most of these five families were not among large land owners in the village. Their combined land was only 134 rai, averaging only 27 rai per family and ranging from 10 to 76 rai. This is a small acreage in comparison to

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

*243 464 621 161 178 per cent in 1949 to thirteen per cent in 1953 suggests that the problem of population pressure on land has become more acute, although it may also indicate changes in the cost structure of rice production which will be discussed in Chapter VI.

494 463 222 226 *[243] Concluding the discussion of this section, we may say that rice growing is the core of the occupational structure of Bangchan around which other occupations rotate. It is not uncommon that one family has several occupations, and in addition to income from these most families get "free" food in the forms of fish and uncultivated aquatic plants. This is the principal reason why families with apparently no cash income still thrive.

• 433 434 22 [136] It is conceivable that in years of poor rice crop the family put more effort in the secondary occupations; when such an attempt does not work out well -- for example, no work for manual labor and no capital for trivial trade -- an effort is made to obtain subsistence directly from nature.

[136] In any event, every family in the village is engaged in fishing in varying degree. It is because of this fact coupled with the fact that the village fish supply is decreasing that the problem of fish conservation is very important.

*243 Finally, the dynamic nature of rice farming, with varying efforts on getting extra jobs and securing free food outside the farm depending upon the increase and decrease of the rice crop, suggests that the economy of any rice

Rice Production

243 433 434 Rice is the single major crop of Bangchan. As of 1953 eighty-five per cent of Bangchan families derived their main source of income from rice production either as farm operators or as farm laborers (Table 11). Furthermore, rice was grown not only by farm operator and farm laborer families but also as a side line by families reporting other occupations. In Bangchan, as in all other rice growing villages, it can be said that rice is the source, direct or indirect, of income for every family. As earlier mentioned, rice growing is the core of the occupational structure around which other occupations rotate.

Table 14 shows that the village average yield, computed from crops of a sample of 96 rice farms during 1949-52, was 28.8 tang per rai.[3] On the basis of this figure, the village total rice crop from 6,722 rai of land worked by Bangchan residents in 1953 may be estimated at 193,594 tang or about 2,130 tons of paddy.[4]

243 433 In order to determine rice surplus in Bangchan, village rice consumption must be computed first. There are three principal uses of paddy -- as human food, poultry feed and as seeds. The village paddy consumption is shown in Table 15.

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3. See Chapter IV for the sampling technique.

4. One tang of paddy grown in Bangchan weighs approximately eleven kilograms.

[TEXT CONTINUED ON PAGE 122]

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 14

VILLAGE RICE ACREAGE, CROP, AVERAGE YIELD, AND CROP INDEX BY YEAR, 1948-52

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Year	Area Planted to Rice	Total Crop	Av. Yield Per Rai	Crop Index*
	rai	tang	tang	
1948	3,384	108,760	32.1	111.4
1949	3,130	77,692	25.0	86.8
1950	3,102	99,225	32.0	111.1
1951	3,039	89,898	29.6	102.7
1952	3,046	76,670	25.2	87.5
Total	15,701	452,445	--	--
Average	3,140	90,489	28.8	100.0

* Average yield during 1948-1952 as 100.

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

TABLE 15

VILLAGE PADDY CONSUMPTION
Bangchan, Thailand, 1953

Item	Units of Consumption	Rate	Total Consumption
		tang	tang
Food	1,372 man equivalent	38.3	52,548
Feed	5,066 chicken equiv.	4.0	20,264
Seeds	7,682 rai equivalent	1.0	7,682
Total		--	80,494

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
Bangchan

In Table 15, units of consumption of paddy are arrived at by the following procedure:

1. Food. Children age 14 and under are considered to have one-half of the rate of consumption of adults and the old. Thus, 644 children in Table 2 comprise 322 man equivalent units of consumption. When 1,050 people over 14 years of age, each having one man equivalent unit of consumption, are added, a total of 1,372 units is obtained.

The rate of consumption of 38.3 tang per man equivalent was obtained from our consumption study of 106 families in 1953.

2. Feed. Due to the lack of adequate data for 1953, figures obtained by the poultry survey conducted in 1949 were used in the calculation for feed. Items in that survey include roosters, hens, chicks, and ducks. Information on poultry feed consumption was obtained from Luang Suwan, the poultry expert of Kasetsat University, Bangkok, who gave the following figures: roosters, hens and ducks, naturally raised, consume four tang of paddy per head per year; and a chick's paddy consumption, negligible at the beginning but gradually increasing with its age, is about three tang per year. Most of these chicks were disposed of at the age of seven months when each had consumed about one tang. One chicken equivalent is therefore assigned to each head of roosters, hens and ducks, and one-fourth chicken equivalent to each chick. On the basis of a stock of 17 chicken equivalents per family, which was found to be the case in 1949,

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

a total of 3,066 chicken equivalents was estimated for 1953.

3. Seeds. Since broadcast and transplanted rice require different amounts of seeds per rai, the total rice area planted to broadcast and transplanted rice must first be reduced into comparable figures -- the rai equivalent, or an area of one raidfor transplanted rice and two rai for broadcast rice. We do not know the actual proportion of broadcast area to transplanted area in 1953, but the proportion figure of 497 1/4 to 3,030 or roughly one to six for 1949 may be assumed.[5] Thus, the total area of 6,722 rai for both broadcast and transplant rice is changed into 7,682 rai equivalent for the purpose of estimating the amount of seeds required. It was found in 1949 that one tang of seed was used for each rai equivalent of rice field. This figure is used in the present calculation.

Table 16 shows that an annual surplus of 113,100 tang of paddy, or about 1,244 tons, was estimated for 1953 on the basis of past performance. This is about 58 per cent of the crop.

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5. Sharp et al., op. cit., pp. 145-46.

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

TABLE 16

ESTIMATED VILLAGE PADDY SURPLUS
Bangchan, Thailand, 1953

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Paddy Production		193,594 tang
Paddy Consumption		
As food	52,548	
As feed	20,264	
As seeds	7,682	
Sub-total		80,494 tang
Paddy Surplus		113,100 tang

Other Food Production

235
433 Other food products which are produced in a considerable amount in Bangchan include chicken eggs, duck eggs, and fish. To a lesser extent, fruit and vegetables are also produced locally.

Practically every family in Bangchan raises chickens, and half raise ducks. In April, 1949, the author conducted a poultry survey covering 46 families whose homes were on the banks of Bangchan Canals. Of these, 45 families were found to be raising chickens and 23 families raising ducks.

Of 45 families raising chickens, 38 families from which data were available reported rates of egg production showing that for these families 53,750 eggs were produced annually from 376 laying hens, averaging 143 eggs per hen. [146] Of 31 families who gave information about sales, five con- [438] sumed all 2,260 chicken eggs produced; the other 26 families sold 31,040 eggs and consumed 5,590. The proportion of consumption to sale was thus 7,650 to 31,040 or approximately one to four.

There were 393 laying hens in the yards of 45 families, averaging 8.6 hens per family. Chicken egg production [434] was estimated at 1,230 per family. Assuming that four-fifths of these were sold at three for one baht, which was the local price in 1949, average cash income for these families from sale of chicken eggs was estimated at 326 baht annually. [415] With a higher price in 1953 of fifty satang a piece, the estimated income from sale of chicken eggs rose to 492 baht per family.

235 Of the 46 families covered by the survey, 23 or one-
433 half raised ducks with an average annual production of 155
434 eggs per duck, and an average of 11.7 ducks per family raising them. Egg production for each of these families thus averaged about 1,200 per year. Of these, 1,350 were consumed by the family and 450 sold at the same price as chicken eggs. It was estimated, then, that from duck eggs alone, the average cash income in 1949 was about 150 baht per family raising ducks.

226 After rice, fish were by far the most important
262 ingredient in the diet of Bangchan. In contrast to poultry,
413 however, fish did not constitute a source of cash income of
[434] the villagers. As a matter of fact, more fish were bought from the outside than the negligible amount that was exported from the village mainly by one or two very poor families who had availed themselves of this means of augmenting
[435] their income. From our consumption study of 106 families in 1953, it was found that of an aggregate amount of 17,786 kilograms consumed by these families in the previous year 16,027 kilograms were caught by the families while 1,759 kilograms were bought at five baht per kilogram. The rate of fish production may thus be estimated at 151 kilograms annually per family, or 44,998 kilograms for the entire village.

262 The same consumption study shows that the 106 fami-
244 lies consumed in 1953 a total of 18,402 kilograms of vegetables
433 all of which were produced or acquired by the families,

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

262 averaging 174 kilograms annually per family. It should
244 be noted here, as will be elaborated in the section on
• 433 consumption in Part II of this study, that while most respondents could fairly well estimate their rates of consumption of such items as rice and fish sauce which were somewhat constant, they were not as good in estimating their consumption of vegetables. Furthermore, while admitting that they did buy some vegetables during the year, they were reluctant to give any estimate of the purchase for fear of too much inaccuracy. At most, they were willing only to say that the amount of vegetables purchased was only a small fraction of what they produced or acquired freely from the canals.

245 Fruit production was even more difficult to estimate
433 than vegetable production, and we had to be content with only qualitative information which appears in the section on vegetation on pages 42-43 of this study. Our records show that a few families reported nominal incomes of some forty or fifty baht annually from sale of fruit to neighbors.

Table 17 shows estimated village production and surpluses of farm products other than rice, namely, chicken eggs, duck eggs, fish, vegetables, and fruit. The estimates are based on the poultry survey of 1949 and the consumption study of 1953.

*243 While the methods of selling and storing paddy enable
433 the farmer to know the exact amount of his crop, which condi-
*128 tion leads to our confidence in the accuracy of our estimate

[TEXT CONTINUED ON PAGE 129]

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TABLE 17

ESTIMATED VILLAGE PRODUCTION AND SURPLUSES OF SECONDARY FARM PRODUCTS
Bangchan, Thailand, 1953

Items	Production	Consumption	Surplus
Chicken eggs	366,540 eggs	73,308 eggs	293,232 eggs
Duck eggs	268,200 eggs	201,500 eggs	67,050 eggs
Fish	44,998 kg.	59,943 kg.	-4,945 kg,
Vegetables	51,852 kg.	51,852 kg.	--
Fruit	not available	not available	not available

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

of village production and surplus of paddy (Table 16) there were no comparable basis for our estimate of the other crops. Our estimates of these other crops should therefore be considered as crude estimates.

Tables16 and 17 show that in 1953 Bangchan had surpluses of 104,756 tang of paddy, 293,232 chicken eggs, and 67,050 duck eggs, and a deficit of 4,945 kilograms of fish. Using the 1953 farm prices of 9 baht per tang of paddy, 0.40 baht per chicken egg, 0.50 baht per duck egg, and 5 baht per kilogram of fish, village exports may be estimated at 942,804 baht for paddy, 146,616 baht for chicken eggs, and 33,525 baht for duck eggs, and village import of fish may be estimated at 24,725 baht.

Land Tenure

Table 18 shows that Bangchan residents owned an aggregate area of 4,315 rai. Since their combined area planted to rice was 6,722 rai, the balance of 2,407 rai had to be provided by absentee landowners. In fact an area larger than 2,407 rai had to be rented in because part of the area owned by local residents had to be used as homelots. Actually, the net area rented in was 2,438 rai (total area rented in of 3,641 rai minus total area of 1,203 rai rented out). It is not to be expected, however, that this extra area of 31 rai (an excess of 2,438 over 2,407 rai) is enough to accommodate the 298 homelots in the village. Inaccuracies might have arisen in cases of joint ownership of certain

TEXT CONTINUED ON PAGE 1311

Rent of Rice Land

*128 178 427 Tables 24 and 25 show different rental methods in 1948 and 1952. Figures in Table 24 were obtained from our records of the sample of 104 farms in operation in 1948, and figures in Table 25 were obtained from the same sample reduced in 1952 to 96 farms which had been continuously in operation until then, the other eight farms having ceased to operate by 1952.[8]

427 *243 178 It is seen that with the exception of a single case of share-cropping there were two rental methods in 1948, in kind and in cash, the proportion of areas involved being fifteen rai of rent in kind to every rai of cash rent. In 1952 rental methods remained more or less the same, consisting principally of rent in kind and cash rent, the proportion of areas involved being slightly increased to nineteen rai of rent in kind to every rai of cash rent.

*243 178 427 435 There was, however, a rapid rise in rent rates within this period of four years. It is seen that the average rate of 6.2 tang per rai in 1948 has risen to 8.1 tang per rai in 1952, an increase of 31 per cent in four years.

• [433] It is interesting to note that an increased rent rate was charged in spite of the decline in yield of 32.1 tang per rai in 1948 to 25.2 tang per rai in 1952, or from the record crop index of 111.4 in 1948 to 87.5 in 1952 (Table 14).

[434] Another equally interesting point is that the increase in rent rate was charged in spite of the increases in the

8. See Chapter IV of the sampling technique.

[TEXT CONTINUED ON PAGE 143]

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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Table 30 shows that the size of the sample has continuously decreased from 104 in 1948 to 103 in 1949, 98 in 1950, 96 in 1951, 96 in 1952, and finally 87 in 1953.[1] It should be noted, however, that we re-visited the village in 1952 and that most of our materials on business and living aspects of the farms were gathered from the sample-farms existing in that year; hence we occasionally referred to the sample of 96 continuing farms.

One way of minimizing the problem of declining size of the sample is to include in the sample new farm operating families which have branched out from the original sample-families. It was found that there were ten such families when we re-visited the village to continue the study in 1952. If this method were adopted, it would mean that the size of our sample would then be 106 farms, a figure which does not differ very much from the original size of 104 farms in 1948.

Another way of solving the problem is to abolish the continuing operator approach entirely in favor of the re-sampling approach -- that is, a fixed sample size is chosen and new sampling is done every time a new survey is to be conducted. This approach, however, has the drawback that

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[243] [178] 1. According to Table 14, crop indices were as low as 86.8 for 1949, and 87.5 for 1952; while those for 1948, 1950 and 1951 were 111.4, 111.1 and 102.7 respectively. It is worth noting that a relatively large number of farm [433] [463] operators changed their occupation (or moved out of the village) in 1950 and 1953. When Table 14 is studied together with Table 30, it is seen that there is a close correlation between change in occupation (or change of farming place) and crop failure in the preceding year. [182]

[TEXT CONTINUED ON PAGE 180]

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
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465 be of any help in the understanding of the hired laborer situation in Bangchan.

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46 Let us now turn to the last group of farm laborers -- the piece-workers. These laborers receive their remunerations in the form of cash paid at the completion of each job contracted. Four types of farm work were observed to have involved the utilization of piece-workers -- uprooting of rice seedlings, transplanting, harvesting, and digging earth and mounding. Uprooting, the heaviest of all rice growing steps because seedlings must be pulled up in budle and smashed against the shank of the worker, was limited to adult male workers. Transplanting, on the other hand, was the lightest of all these steps involving the itlization of piece-workers and may be done by all kinds of workers including the young. Harvesting and digging and mounding are too heavy for the young but not for the adult female workers to participate, so they are usually performed by adult workers of both sexes.

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[435] It was found in the cost of production study in 1948 that 104 farm operators in Bangchan spent a total of 4,434 baht on uprooting done by piece-workers, 7,951 baht on transplanting, and 13,310 baht on harvesting, or an average per farm of 43 baht for uprooting, 76 baht for transplanting, and 128 baht for harvesting. Although digging and mounding is generally considered a part of farm work since it is done primarily in order to keep the buffalo shed above the water level as well as to improve the home garden; it is not

243 621 433 included in the items of cost of producing paddy, and therefore we do not have the figure for this item of farm expenses.

It was earlier mentioned in the section on occupational structure in Bangchan that most villagers regardless 434 464 621 463 of their main occupations did perform some piece-work for either main or subsidiary incomes. It is almost impossible, then, to give an exact figure of the number of piece-workers in any one year. For the purpose of this study, however, we may arbitrarily differentiate between the "professional" and the "non-professional" piece-workers. Here, the classification suffers much overlapping -- even more than does the classification of the occupation of the villagers, for we cannot even use the concept of the main source of income as a criterion in this connection. It was mentioned that farm laborers existed in Bangchan not because of demand for their work but because they have no opportunity for other occupations (page 100). Thus, if the main source of income was used as the criterion for differentiating the "professional" piece-workers, this group would include, for example, the old woman described in Case 7 page 69, who after having been left alone had managed to get a small income from transplanting which was the only type of farm work she could perform. The main source of income was also not a good criterion considering the fact that most piece-work was done by family members after their obligation to the family 469 farm had been fulfilled. In a desperate attempt to differ- 463 entiate the professional from the non-professional piece-workers

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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B. High-price

Noria	309.00	baht
Sampan boat	386.00	"
Windmill	429.00	"
Winnowing machine	498.00	"
Mard boat	1,046.00	"
Chala boat	1,400.00	"

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Prices of equipment used in rice farming give us only an idea of the initial investment necessary to start a rice farm and the cost of investment in this equipment, which may be calculated in terms of interest on that investment. Prices alone, however, do not determine the annual cost incurred in the use of farm equipment; for some items remain in service for several years while others have a relatively short life, and they all differ in the relative cost of repair and maintenance.

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In the 1948-49 survey of 104 farms, two types of schedules were used. The "early schedule" was administered to the first fifty respondents, and the "late schedule" was administered to the rest. The early schedule was more detailed than the late schedule. For example, in the early schedule there are detailed questions on the original cost and subsequent depreciation of each plow, and each detachable plow-part, owned by each of the fifty respondents in the early sample. On the basis of these responses, we calculated the average depreciation rate of plows. Each of the fifty-four respondents to the late schedule was asked only one question on plows, viz. the number of plows he owned. In the case of each plow of each respondent to the late schedule, we simply applied the average cost and depreciation figures resulting from the early

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7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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CHAPTER VI

FARM ORGANIZATION AND MANAGEMENT

*128 241 Broadly speaking, a farm is one or more tracts of land held or operated as a unit for the production of agricultural products.[1] The subject of farm organization and farm management is usually treated under the more general term "farm management". A recognition of the distinction between these two functions of the farm operator is necessary. Organization refers specifically to the function of creating the general scheme or plan of production, whereas management refers to the function of putting the scheme into operation and of making those adjustments in the business which are necessary in order to obtain the maximum economic returns from the farm business as a whole.[2]

*243 433 44 Limited Role of Bangchan Operators

1. Limited role in organization: Discussions in the preceding chapters have indicated that at the present stage of technological development Bangchan operators have really not much choice in creating the general scheme or

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1. H. C. M. Case and Paul E. Johnston, Principles of Farm Management, J. B. Lippincott Company, Chicago, 1953. pp. 466.

2. G. W. Forster, Farm Organization and Management (New York: Prentice-Hall, Inc., 1950), p. 19.

243 433 44 plan of production. If a crop is to be produced for market in Bangchan, in all probability it must be rice. Since crop rotation is not practiced, there is no need for decision making as to the kinds of crops which are to be grown other than rice. The operator may have to decide how many chickens he should keep, but he normally settles on a flock of ten to fifteen, for it would be too much a burden to keep a larger flock and fewer heads of poultry would not be worth the time. The production function, or the choice of the best factor combination, also does not call for any serious consideration. For it has been observed that at the present stage of technological development of rice production in Thailand or even in the whole region of Southeast Asia the marginal product of labor has already approached zero. In other words, more labor applied to the same area under the same method of planting would not materially increase the crop harvested. It has been claimed, though, that a larger crop may be expected from the same parcel planted to broadcast rice by changing the planting method to the more labor intensive transplanting system. This claim has never been substantiated, however, by any systematic comparative study. Besides, the transplanting method is so universally adopted in Bangchan that it can almost be taken for granted to be the one in use by any rice farmer. Moreover, it was mentioned earlier that the planting method is not optional with the farmer but is governed by topography, expected condition of water supply, and availability of labor.

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7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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*243 • 433 The preliminary study in 1948-49 shows that a well equipped farm has a higher crop yield than a poorly equipped farm. Yet the issue here is not one of deliberately choosing the best factor combination among several others. Rather, the lowly capitalized farm is so equipped because of the failure on the part of the operator to command enough capital to meet the required standard factor combination. It is seen, then, that if the operator had enough resources he would follow the established pattern of farm capitalization, thus there appears also to be not much choice either in the selection of the kinds and amount of farm equipment.

*243 242 433 The operator may decide on whether or not fertilizer is to be used, and this will certainly affect factor combination. It has been observed, however, that Bangchan farmers have never applied any commercial fertilizer to their rice fields of which plant nutrients have been replenished only by the annual inundation and natural deposition of buffalo manure. The reason for the rice farmer's disinclination to fertilization as given by the Thai Ministry of Agriculture was the relatively high price of commercial fertilizers.[3] In fact, progress reports on fertilizer, a study conducted by the ministry, indicate the possibility of profit from proper application of commercial fertilizer on rice fields, but operating on a narrow margin the rice farmer simply could not afford the risk. Uncertainty due to weather and

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3. Ministry of Agriculture, Problems in Thai Agriculture, op. cit.

*243 water conditions is also a major factor militating against
• 433 investment on fertilizer. As it happens, therefore, fertilization does not prevail in the decision making of Bangchan operators.

If the operator has any positive role at all in the production plan, it is in the selection of rice varieties. This topic has already been dealt with in the section on labor adjustment devices of the preceding chapter.

*243 Finally, one of the most important organizational
433 decisions involves the choice of the size of the farm. It
423 has been observed that poverty in agriculture is as much a problem of farm size as of any other single factor. Most frequently, farm size is spoken of in terms of acres -- the land input. Although this measure is generally not sufficient, it serves the purpose quite well in single-crop farming areas such as Bangchan and all other rice areas in this country. In this study, therefore, farm size will be expressed in rai (two-fifths of an acre) devoted to rice.

Generally speaking, if the Bangchan operator is free
[464 to choose the farm size that suits him best, his decision
592] will be based almost entirely on the size of labor force under his command, which in turn depends largely on the size of his family labor. As it happens, most operators are not
*243 free to do so. It was mentioned in the section on land tenure
427 of Chapter III that it was only the landlord-operator group,
464 actually 11 out of a total of 216 farm operators in Bangchan,
423 that had demonstratively shown sign of land saturation and

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
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A 243 from the homelot because much time and energy would be
423 wasted in daily walking to the field.
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427 It would seem, then, that most rice farm operators had little opportunity to obtain a farm size they thought best and had to accept what was due them. Thus, their role in choosing the size of business, which is the most important role, is also limited.

A 243 2. Limited role in management: Inasmuch as manage-
224 ment refers to the function of putting the scheme into opera-
• 431 tion, Bangchan operators certainly have a large part to play. A good rice crop depends largely on the relationship between the height of the young plant and the rising water level. Since the rise of water level is highly seasonal, depending on local rains as well as rains elsewhere that affect the general water level, scheduling the farm work and seeing to it that the schedule is followed becomes a most important function of the farm operator.

A 243 Management, however, refers also to the function of
433 making those adjustments in the business which are necessary in order to obtain the maximum economic returns from the farm business as a whole. Inasmuch as this latter function is concerned, the operator's role has been limited as in the case of the organizational function. As previously stated, under the present stage of technological development in rice production in this country, not only the points of diminishing return of both labor and capital (farm equipment, at the present state of technical development in the village)

7: Janlekha X-4.5 (1948-1953)1956 AO7 Central Thai AO7
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have been long passed but also the marginal products of these two factors have already approached zero. Under this condition, the function of making adjustments of the farm operator is reduced to the minimum.

It is seen, then, that the farm operator's role in organization and management has been under Bangchan condition, reduced to scheduling and supervising with the possible exception of choosing rice varieties. Good management, in the village sense of the term, means finishing the planting work in time or well before the deadline set by water condition. This is likely to continue to be the case until there is such a radical change in the rice producing industry of this country as, for example, an introduction of a new equipment which commercially adopted, an availability of commercial fertilizer at a reasonably low price, an efficient method of soil amendment that allows another crop to be grown in rotation with rice, or a dependable water control system to the extent that damages due to flood or drought can be altogether eliminated.

Elements of Agricultural Production

The four elements of agricultural production -- land, labor, capital (farm equipment and materials), and management -- have all been discussed at various stages of this dissertation. In this section, these elements will be brought back into discussion again insofar as they have bearing on farm organization.

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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*243 • 433 [427] 1. Land: This element represents 22 per cent of the total cost of producing paddy (Table 38). Of this, 15 per cent is actual payment for explicit rent while 9 per cent is assessed value of implicit rent.

Among the cost items in Table 38, cash expenses include actual rent (13%), wages for pieceworkers (3%), wages for hired laborers (2%) and seeds and materials (6%), while imputed expenses include implicit rent (9%), value of family labor (31%), value of the operator's labor (13%), depreciation (10%) and interest on investment (11%). It is seen that cash expenses comprise only 25 per cent, while imputed expenses comprise as high as 75 per cent of the total cost.

In view of the high proportion of imputed expenses, the method adopted in the imputation will be explained here.

[427] [435] 1. Rent: Going rate for 1948-49 of 6.2 tang (49 baht) per rai was used.

[592] [461] 2. Value of family labor: Labor requirement based on acreage was first calculated, using the standard factor of 13.4 adjusted rai to one fully employed worker (this was the 1949 average for farms with regularly hired laborers on which [435] workers were assumed to be fully employed). When the labor requirement in terms of number of fully employed laborers needed was known, imputed family labor cost was calculated at the going wage rate for the year of 1,600 baht (1,000 baht cash and 600 baht of food privilege).

3. Value of the operator's labor: In addition to

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7: Janiekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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TABLE 38

COST OF PRODUCING PADDY ON 104 SAMPLE-FARMS*
Bangchan, Thailand, 1948

Items	Total	Average	Per cent
	baht	baht	
1. Rent of land			
a. Actual	99,501.63	957	13.1
b. Assessed	70,604.54	679	9.3
Total	170,106.17	1,636	22.4
2. Labor			
a. Hired labor	24,757.00	238	3.3
b. Piecework	25,696.00	247	3.4
c. Assessed value of family labor	338,839.00	3,258	44.6
Total	389,292.00	3,743	51.3
3. Capital			
a. Seed and material	42,574.77	409	5.6
b. Depreciation	73,236.50	704	9.6
c. Interest on investment	84,590.22	813	11.1
Total	200,401.49	1,926	26.3
Grand Total	759,799.66	7,305	100.0

Total crop. . . . . 112,415 tang of paddy
Total acreage . . . 3,527.75 rai

Average cost per tang 6.76 baht
Average cost per rai 215 baht

* The cost figure in this table is slightly higher than the one given in the preliminary report because of the inclusion of the value of operators' labor.
The value of the operator's labor is estimated at 1,000 baht per year for those operating farms of 10 rai or more, and at 500 baht for those operating under 10 rai.

243 the value of family labor, the cost of managerial service of
433 the operator of 1,000 baht was arbitrarily charged for farms
[435] with the size of 10 rai or over. For farms under 10 rai, only 500 baht was arbitrarily charged as the cost of managerial service.

4. Depreciation: From the original cost of each item of equipment (including buffaloes) was deducted its residual value at the termination of its service, and the result was divided by the expected length of service in years of the equipment.

5. Interest on investment: The rate of 15 per cent per year was arbitrarily chosen. This was the maximum legal rate, and was also a minimum rate of return which any person in Bangchan might reasonably expect from his money if he chose to lend it out at any moment.

[128] Since much of these imputed expenses were arbitrarily chosen, the cost of producing paddy might naturally vary widely according to the assigned value of each item. Our cost of production figure, then, will be more meaningful, if the amounts of these arbitrarily imputed values are constantly kept in mind.

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433 Farms in Bangchan are composed of from one to four
461 parcels of land. The characteristics of this fragmentation
423 are shown in Table 39. The size of a parcel ranges from one rai to 65 rai, averaging 18.8 rai. Fragmentation obviously brings about a waste of considerable time and energy spent in going from one parcel to another, and thus an increase in

[TEXT CONTINUED ON PAGE 282]

243 433 461 423 labor cost. Most farmers must go by foot or boat to work at places ranging from a hundred meters to two kilometers from home. This waste is the more serious during the period of preparation of the fields at the beginning of the season when the water level in the canals is not high enough to permit the effective use of a boat.

243 178 423 Table 40 shows the frequency distribution of areas worked by Bangchan operators in 1948 and 1952. It is seen that in both years work areas concentrate in the size groups between 10 to 40 rai, avereging 34.2 rai for 1948 and 31.7 rai for 1952. It is seen also that the work areas of 1948 have a wider range than that of 1952. There were 30 farms in 1948 whose areas were 40 rai and over, while the number of such farms was 28 in 1952.

Table 41 shows that of 96 continuing farms, 20 have increased their size during the five years period, 40 have decreased their size, while 35 farms have the same size throughout.

243 433 46 2. Labor: This element represents 51 per cent of the total cost of producing paddy (Table 38). Of this, only a small fraction is actually paid for -- 3.3 per cent to hired laborers and 3.4 per cent to pieceworkers. The bulk of labor is supplied by family workers (including the operator himself) whose labor value is assessed at 44.6 per cent of the total cost of producing paddy.

It is seen in Table 42 that the number of adjusted rai per worker is only 9.4 for farms which used only family

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7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
Bangchan

labor, while the corresponding number is 13.4 for farms which used regularly hired laborers along with family workers. We make the assumption that farms with hired laborers had full utilization of labor (otherwise there would be no need to hire an extra laborer) and that farms without any hired labor might or might not have full utilization of labor. The significantly larger area per worker for farms demonstrating full utilization of labor than that of farms which did not demonstrate such condition indicates that there was latent underemployment in terms of rai per worker on some Bangchan farms. Table 43 suggests that there might be as many as 87 of such farms out of 104 sample-farms in Bangchan in 1949.

While full utilization of labor is fairly well indicated by employment of regular hired laborers, it is not necessaryily the case that the family labor of farms which employ some pieceworkers had been fully utilized except during the peak period when the pieceworkers were employed. It has been observed that many of the apparently undersized farms had to engage some pieceworkers to do some uprooting, transplanting, and harvesting because the labor requirements for these steps are so highly seasonal that such labor adjustment devices as planting of several varieties of rice and cooperative work system could not amply spread the work of the family. The extra work sought from the pieceworkers is usually small, however.

7: Janiekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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Buffaloes are considered as a kind of farm equipment, so the cost of buffalo labor appears under the item of cost of equipment. Buffalo labor is, however, so closely associated with man labor that it seems to be more appropriate to discuss it here.

It has been pointed out that the accomplishment of farm work during the critical period depends largely on buffalo labor. Farmers fully realize the importance of this draft animal, which is always given good treatment. Even in the busiest season of field preparation, when farmers work from dawn to dusk seven days a week, the buffalo has a full holiday each week (on Wan Phra, the Buddhist holiday) and has a four-hour noon recess, usually from 10 a.m. to 2 p.m., on work days.

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3. Farm equipment and supplies: This element represents 26 per cent of the total cost of producing paddy. Our records show that in 1948 the total value of farm equipment and materials of the 104 sample-farms amounted to 559,626 baht, averaging 5,381 baht per farm, and ranging from 443 to 16,733 baht. The frequency distribution of the value per farm of farm equipment and materials is shown in Table 44.

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Table 45 shows the frequency distribution of the value per rai of farm equipment and materials which ranges from 34 to 518 baht, averaging 159 baht. It is seen, in spite of this rather wide range, that three-fifths of the value per rai concentrate in the interval between 100 and 200 baht per rai.

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TABLE 44

FREQUENCY DISTRIBUTION OF THE VALUE PER FARM OF EQUIPMENT AND MATERIALS OF 104 FARMS
Bangchan, Thailand, 1948

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Class Intervals	Number of Farms	Average Per Farm
baht		
Under- 1,000	2	460
1,000- 1,999	12	1,477
2,000- 2,999	8	2,596
3,000- 3,999	17	3,490
4,000- 4,999	11	4,511
5,000- 5,999	15	5,473
6,000- 6,999	11	6,380
7,000- 7,999	9	7,380
8,000- 8,999	4	8,307
9,000- 9,999	4	9,357
10,000-10,999	6	10,520
11,000-11,999	4	11,584
12,000-and over	1	16,733
Total	104	88,268

Mean . . . . . 5,381 baht

Median . . . . . 5,055 baht

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
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TABLE 45

FREQUENCY DISTRIBUTION OF THE VALUE PER RAI OF EQUIPMENT AND MATERIALS OF 104 FARMS
Bangchan, Thailand, 1948

Class Intervals	Number of Farms
baht	
Under- 50	1
50 - 99	11
100 --149	38
150 - 199	23
200 - 249	13
250 - 299	8
300 - 349	22
350 - 399	3
400 - 449	2
500 - 549	1
550 - 599	2
Total	104

Mean . . . . . .159 baht

Median . . . . . .152 baht

*243 • 433 It is often said that the underdeveloped areas are characterized by over-population and under-capitalization. While there is much truth in this, there is also a danger of oversimplification. Capital here includes a relatively small physical in put, but it is actually large in terms of cost per unit.

4. Management: We did not assign any value to the operator's managerial work; only the assessed value of his labor -- 1,000 baht annually, or 500 baht annually if he operated only 10 rai or less -- was included in the item of assessed value of family labor.

The role of management has already been discussed in the previous section of this chapter.

It has been observed that management is furnished by the Bangchan operator and his wife, and in some cases *243 423 427 their grown-up sons and daughters. Not a single case has been known where the management on rented farm is shared with the landlord or his agent. It is interesting to note that the absence of the landlord's part in management was exhibited in an environment that should normally create and regenerate his influence over the tenant -- the condition of land scarcity, the Thai respect for one's betters, and the ease in communication between the landlord and the tenant.

Actually, the absence of the landlord's part in management does not necessarily mean that he has no influence over his tenants. On the contrary, landlords in Thailand

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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121 lies the main problem of Southeast Asia -- the problem basically of transition. Writing in 1949, Paul Mus rightly states: "The traditional world was not dead; it still held sway in the countryside. A state of affairs, in which the people's livelihood is calculated in terms of one world and their taxes in those of quite another, cannot endure."[2]

* 128
• 433 Degree of Self-sufficiency

During 1952-53, a consumption study was made on 106 sample-farms, which include the 96 continuing sample-farms and 10 new farms branching off from the original sample-farms of 1948. Details of this consumption study will be discussed in the section on ordinary household expenses later in this chapter. For the purpose of the present discussion, Table 46 -- frequency distribution of degree of self-sufficiency of those 106 sample-farms -- is here introduced. By degree of self-sufficiency is meant the proportion of the value of home-grown products expressed as a percentage of the total value of annual consumption. Quantitatively speaking, it is seen that Bangchan farm families produce more than half of the things they ordinarily consume.

24 However, the number of different products consumed
433 which are produced by the family can be counted with the
[592] fingers of one hand. These are rice, fish, eggs, fruit and
000 vegetables. On the other hand, there are scores of items

2. Paul Mus, The Role of the Village in Vietnamese Politics.

[TEXT CONTINUED ON PAGE 296]

7: Janlekha X-4,5 (1948-1953)1956 AO7 Central Thai AO7
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TABLE 46

FREQUENCY DISTRIBUTION OF DEGREE OF SELF SUFFICIENCY MEASURED IN MONETARY VALUE OF 106 SAMPLE-FARMS
Bangchan, Thailand, 1952

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Class Intervals in Per Cent	Number of Farm Families
21 - 25	1
26 - 30	2
31 - 35	3
36 - 40	5
41 - 45	18
46 - 50	12
51 - 55	24
56 - 60	19
61 - 65	18
66 - 70	5
Total	106
Mean	51 per cent
Median	52 per cent

*243 Of 47 farms which had negative labor incomes, 37
434 were in the class interval of from -1 to -2,000 baht, 9
[435] from -2,001 to -4,000 baht, and one -- the least efficient as far as this measurement is concerned -- produced as low a labor income as -8,006 baht. This last farm had to support a large family of eleven members. With an acreage of 40 rai, which was rather small relative to the size of the family (another family of ten was operating a 110-rai farm in that same year), it was natural that this farm did not have much rice to sell.

*243 In figuring farm expenses, we intentionally left
434 out the dwelling and included as farm buildings only the
342 ones that housed the buffaloes, farm equipment and materials.
[427] The main reason for this omission was that there was a wide
[435] range of dwelling facilities in Bangchan -- from a teak building valued at 30,000 baht to a dirt floor thatched shack valued at no more than a few hundred baht. Besides, rental for a dwelling in rural areas of the country is practically unknown. Since a family living in the village must have their own dwelling regardless of their occupation, it was considered in this study that dwellings should be separated from farm investment. This consideration was further substantiated by the fact that when a family gives up farming they continue to live in the dwelling while all the farm equipment may be sold.

*243 When the charge for dwelling is dispensed with for
434 the reasons given above, the only difference between labor
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7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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243 434 433 income and operator's labor earnings lies in the value of farm produce consumed by the family. Earlier, five kinds of produce were listed -- rice, fish, eggs, fruit and vegetables. For technical reasons, we consider only rice and eggs as products of the farm, rice being the primary crop and eggs the secondary crop. Fish is not considered a farm product because Bangchan villagers fish for consumption, not for sale. Besides, fishing is done by every resident of the village, farmers and non-farmers alike. It is thus more of a way of life than an economic enterprise. The same is true for fruit and vegetable growing which is done in a very small scale.

If we agree on considering only rice and eggs as the products of the farm, it is not difficult to estimate the amount and value of farm produce consumed by the family for Bangchan operators can readily give a rather accurate information on their rates of consumption of these two products. Thus, under Bangchan condition the figure for operator's earnings is not as difficult to obtain as it appears to be the case among most American farms. The frequency distribution of operator's labor earnings of our 104 sample-farms is given in Table 48. It is seen that only 17 farms produced negative remuneration for the operator computed by this method as against 47 farms by the labor income method. As Professor Warren has said, of these two, labor earnings is a better measure of profits. It is especially so in Bangchan and perhaps in other agricultural regions in Southeast Asia

[TEXT CONTINUED ON PAGE 306]

7: Janlakha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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243 where farm families are relatively large and agricultural
434 workers are usually under-employed.
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[171]

Since farming in Bangchan is basically a single-crop enterprise, the major crop (rice) heavily outweighing the secondary crop (poultry), we are in a position also in this study to use another measure of success -- returns from rice over the cost of producing it -- without entailing the difficulty of cost allocation. We simply charge all items of expenses including the values of family labor and the operator's labor to the rice enterprise, the only exception being the value of paddy consumed by chickens and/or ducks. By returns from rice is meant the market value of the total harvest of paddy. This measure is similar to the net farm income when the farm products used by the family are included in the receipts (in some states of the United States this is done, but ordinarily not, the main reason for leaving these out being the difficulty of imputing accurate money values to them).

243 Tables 49 and 50 shows respectively the frequency
128 distribution of the cost of producing paddy per tang and
434 per rai for the 104 sample-farms. It is seen that the coef-
433 ficient of variability of the cost per rai is lower than that of the cost per tang, the former being 19 per cent and the latter 27 per cent. This is to be expected, for on the basis of such a unit area as rai there are several items of cost that are somewhat fixed -- seeds, rent, human and buffalo labor in all steps of field preparation, planting, and

[TEXT CONTINUED ON PAGE 309]

TABLE 49

FREQUENCY DISTRIBUTION OF COST OF PRODUCING ONE TANG OF PADDY OF 104 SAMPLE-FARMS
Bangchan, Thailand, 1948

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Class Intervals	Number of Farms
baht	
4.00 - 4.99	14
5.00 - 5.99	21
6.00 - 6.99	19
7.00 - 7.99	25
8.00 - 8.99	13
9.00 - 9.99	6
10.00 - 10.99	2
11.00 - 11.99	2
12.00 - 12.99	1
13.00 - 13.99	0
14.00 - 14.99	1
Total	104
Mean	6.76 baht
Median	6.92 baht
S.D.	1.87 baht
Coef. variability 27 per cent	

7: Janlekha X-4,5 (1948-1953)p956 AO7 Central Thai AO7
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TABLE 50

FREQUENCY DISTRIBUTION OF COST OF PRODUCING ONE RAI OF PADDY OF 104 SAMPLE-FARMS
Bangchan, Thailand, 1948

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Class Intervals	Number of Farms
baht	
120 - 139	2
140 - 159	8
160 - 179	7
180 - 199	19
200 - 219	22
220 - 239	23
240 - 259	11
260 - 279	5
280 - 299	4
300 - 319	0
320 - 339	2
340 - 359	1
Total	104
Mean	215 baht
Median	215 baht
S.D.	41 baht
Coef. variability	19 per cent

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harvesting. The only cost item that appears to vary with the size of the crop is the cost of threshing and winnowing which does not figure prominently in the cost of producing rice.

Table 51 shows the frequency distribution of returns over cost of producing rice of our 104 sample-farms.[5] It is seen that there were 79 farms which, according to this measur produced some profit ranging from 0 to some 10,500 baht, while there were at the same time 25 farms which produced a loss ranging from -1 to some -6,500 baht.

Factors Affecting Farm Profit

Farm profit depends on a number of factors. Among these are listed below by Hart and Warren as "what makes a farm pay."[6]

1. Prices
2. Quality of land
3. Size of business
4. Rates of production of crops and animals
5. Selection and combination of enterprises
6. Labor efficiency
7. Farm layout, farmstead and building arrangement

NEXT CONTINUED ON PAGE 311

5. Returns over cost was calculated by multiplying the rice crop by farm price and deducting the total cost from this total. Method of computing cost was described on page 143.

6. V. B. Hart and S. W. Warren, Farm Management Manual.

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TABLE 52

BREAKDOWNS OF COST OF PRODUCING RICE ON 104 SAMPLE-FARMS
Bangchan, Thailand, 1948
(Total area -- 3,528 rai; total crop -- 112,415 tang)

Items	Total	Average Per Farm	Average Per Rai	Average Per Tang	Per Cent
	baht	baht	baht	baht	
Rent					
Actual	99,500	957	28	0.88	13
Imputed	70,600	679	20	0.63	9
Total	170,100	1,636	48	1.51	22
Labor					
Actual					
Pieceworkers	25,700	247	7	0.23	3
Hired laborers	24,800	238	7	0.22	3
Sub-total	50,500	485	14	0.45	6
Imputed					
Family workers	237,800	2,287	67	2.11	31
Operator	101,000	971	29	0.90	13
Sub-total	338,800	3,258	96	3.01	44
Total	389,300	3,743	110	3.46	51
Seeds, materials	42,600	409	12	0.38	6
Depreciations	73,200	704	21	0.65	10
Interest on investments	84,600	813	24	0.75	11
Grand Total	759,800	7,305	215	6.76	100

243 and enhance income from the farm, but it would not sig-
434 nificantly affect the farm family income or income for the
461 family living (see definitions under Headings 7 and 8 of the section on the operator's remuneration and measures of success) unless more land is added.

243 In rice farming, rates of production of crops and
433 animals is reduced to rice yield per rai. At the present
434 stage of technological development in Bangchan, this is not as much a result of management as of nature -- the water condition and the quality of land (in both senses of soil fertility and levels of the fields). Since we already have quality of land as a factor, rates of production may thus be eliminated.

After eliminating factors that are either insignificant or duplicates of other factors under Bangchan conditions, the standard factors affecting farm profit are thus reduced to prices, quality of land, size of business, and markets and marketing. These influences are familiar to students in agricultural economics, and therefore do not need further elaboration here.

[171] In addition to these standard factors, there are certain special factors affecting farm profit which the author suspects to be appropriate not only to Bangchan but also to all other rice producing areas of Southeast Asia. These are the differentials in paddy prices, in rates of interest, rentals, and wage.

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This was one of the easiest jobs of the whole study. There were few cases where we did find anybody at home and there were many more where only young children were seen. Since a Thai farm home is considered an open house to fellow villagers, we simply took liberty of walking right through and made an inspection by ourselves. Thus in a period of less than a week we were able to secure the figures of paddy stock on hand of every single operator in the sample.

The amount of paddy stock alone simply indicates but not represents sale in the second period, for a certain portion must be saved for seeds, consumption and feed. It is rather simple, however, to calculate the amount saved, for we were already in possession of work areas from which the amount of seeds may be estimated and we knew the size of the family (in terms of both actual number and consuming units) from which consumption may be figured.

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In this second period, sale was made when the farmer thought the price was high enough. Usually, the prices of paddy were about 15 - 30 per cent higher during this period than in the first period when supply was high. The rate of shrinkage should be taken into consideration, however, for prices are expressed in volume. It is rather unfortunate that we do not have any official record for this vital rate of shrinkage. In our daily log, however, the following testimony appears:

434 thousand baht to more than ten thousand baht which
454 is a real drain on the village cash supply.
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These huge expenses are, however, partially compensated by such items as loans sought from outside or sale of lands and other assets. It cannot be [426] expected, however, that these items would provide enough supply of cash to bring down the rate of interest in the village.

4. Role of paddy

*243 Paddy is extensively used in the village as a
436 medium of exchange. It is used in both small transactions of a few baht and large transactions of several thousand baht. Thus paddy stock may almost be considered as equivalent of a bank balance.

*243 The most important consumption uses of paddy
• 433 are as seeds and for human consumption. In order to
436 make it really comparable to a bank balance, allowance
454 must be made for the amount necessary for seeds and human consumption although the amount for chicken feed may be dispensed with because the farmer may choose to drop his poultry enterprise. On this basis, we have

*128 arbitrarily coined a term "index ofcapital formation
*243 potentisl with present levels of living" to represent
433 the amount of paddy in tang which is left at the oper-
436 ator's disposal at the end of March after allowance
454 for seeds and family consumption has been made. No allowance is made for special consumption expenses such

*243 *128 • 433 436 454

as sponsoring of ordination and other rituals. Algebraically, the formula for the index of capital formation potential may be expressed as follows:

$$I = P - (R \times 1\ 1/2) - (C \times 30)$$

where,

I is index of capital formation potential
P is paddy stock at the end of the first phase of sale (about March 31)
R is area in rai devoted to rice
C is the family size expressed in consuming units, whereby adults age 15 years and over are considered to be one consuming unit each and children age 14 years and under are considered to be one-half unit each.

The formula is constructed under the following assumptions:

1. Creditors and landlords demand settlement of debts and rentals immediately after harvest.
2. Farmers prefer to keep paddy rather than cash.
3. Before the end of March, affluent farmers sell only a certain part of their crops which would bring just enough cash to last until the next sale in July or after.
4. Amount of seeds necessary to plant one rai of rice is 1 1/2 tang.
5. Paddy consumption is 38.3 tang annually per consuming unit (Table). The surplus held on March 31 must last for 9 1/2 months before the next harvest can be used. Consumption during these 9 1/2 months is calculated at 30 tang per concuming unit.

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The cost of producing rice in Bangchan of 6.76 baht per tang of paddy in 1948 (according to our method of calculation earlier described) appears to be rather high in relation to an average price of 7.86 baht received in the same year. A net gain of 1.10 baht per tang of paddy seems to be inadequate with an average annual output of 1,081 tang of paddy per farm; even though every farm operator still has in addition incomes for family labor (in terms of value of family labor including himself) and from ownership of farm equipment (in terms of interest), and some operators who work on their own land still have additional incomes from ownership of land (in terms of implicit rent). As things stand at the present, this calculated cost can hardly be reduced in the near future unless there is an abrupt change in technology.

Many Bangchan operators appeared to thrive well under this condition of high cost because about three-fourths of the total cost of production was imputed and did not require an immediately cash outlay. Some of these cost items were hidden in the form of gradual depreciations which were not actually provided for each year. These would certainly be realized, however, when for example buffaloes died or equipment broke down. Even the imputed cost for family labor could not indefinitely be postponed. Family workers did not demand a lump sum payment like wages for laborers, but they had to be fed and clothed, and certainly personal expenses had to be allowed for them. Some

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The lean time from the middle of February to the end of May is devoted by some villagers, mostly young men, to wage earning outside the village. The size of this temporary labor migration depends on the job opportunities, and these job opportunities depend largely on personal contact. Seasonal off farm jobs are: (a) crude carpentry work usually on nonpermanent construction where cheap temporary labor is preferred; and (b) plantation work in the sugar cane region of Cholburi some eighty miles east of Bangkok.

Inherent Excess of Expenses over Incomes

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The prevalence of debts in the form of credit purchases among Bangchan farmers indicates an excess of expenses over incomes. It has been shown that most cash loans were sought to clear high interest bearing credit purchase accounts, although some were for productive purposes. Even in this latter case, it has been observed that farmers usually borrowed no more than an amount that was immediately needed together with cash on hand to pay for the capital investment. This means that after such capital purchases there was less cash for the household and operating expenses, and so there would be a higher credit account to be settled in the following harvest.

Low incomes coupled with relatively high expenses leave little or no room for internal savings.

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The situation is aggravated by an increasing rate of consumption relative to the ability to produce. While

243 178 433 434 production method and farm organization remained the same throughout, there had arisen in the course of the past four or five years new items of consumption including wrist watches, fountain pens, hair do, Coco-cola, invitation cards, admission to Miss Thailand contest, etc., which demonstrate the operation of the principle of demonstration effect par excellence. It is not difficult to see, then, that any chance increase in cash incomes due to favorable weather and economic conditions tends to be absorbed in consumption.

While consumption correspondingly expands with an increase in income, it does not decline with a contraction of income -- at least not in the same proportion. This is the principal reason for farm poverty in rice growing areas where only a single-crop system is practiced and where fluctuation of crop yield is a normal phenomenon.

As a result, the excess of expenses over incomes [426] tends to persist. High rates of interest also have made this excess greater and greater among those who fail to make proper adjustment in their credit situation. Thus, the less affluent farmers are not only poor but are actually getting poorer and poorer.

Population Pressure

161 434 While low incomes and inherent excess of expenses over incomes are basic problems of Bangchan, discussions in the early chapters reveals that there are some factors contributing to the acuteness of the basic problems. One

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434 among these contributing factors is population pressure.

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161 Disguised unemployment in the case of farm operators
434 and their family workers and actual unemployment in case of
464 farm laborers indicates a condition of over-population in Bangchan in the sense that a certain part of its population can be removed without materially reducing total production in the area.

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226 In view of a continually decreasing supply of fish,
433 it may be said that the situation has reached the point where it not only affects the per capita income of Bangchan resi-
262 dents but actually exerts pressure on means of subsistence. There are several indications of decreasing supply of fish and other marine animals in the village. First, it is the consensus of opinion gathered by our daily informal talk with villagers non of whom was found to hold a contrary view. Second, a passage in our 1948 log, "X is very lazy. Everybody here in Bangchan catches shrimps and makes his own shrimp paste. He alone does not catch shrimps even though he is among the poorest," indicates that purchase of shrimp paste was in 1948 an exception rather than a rule. In 1952, however, it was found that a total of 22.7 kilograms of shrimp paste consumed in a year by an average family, 6 kilograms, or more than a quarter, was purchased. In this latter year, 83 baht worth of fish and 54 baht of fish sauce were purchased by an average family in addition to shrimp paste as against negligible amounts for the same items in 1948 (we did not conduct a systematic consumption

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178 survey in 1948, the "negligible amounts" comes from daily
226 talk with Bangchan residents). Third, several informants
• 433 testified that the amount of fish caught from the same pool
[262] by the draining method had been decreasing each year. One of these gave the following comparative figures for fish caught from the same pool on April 8 - 10, 1953 and on approximately the same time of the year in 1952 as follows:

Kind of Fish	Number Caught in 1953	Number Caught in 1952
Pla Salid	400	800
Pla Salad	100	200
Pla Kasong	50	120
Pla Chado	6	15
Pla Krai	1	--
Pla Doog	50	50
Pla Mor	20	25
Pla Chorn	150	300
Large turtle	5	3
Small turtle	7	3
Eel	5	5

Others also gave the 1953 figures, but could not itemize the 1952 figures; they only said that they "got much more than this year."

226 There had been until 1952 no positive program for
654 fish conservation; only negative measures have been taken, such as the Ministry of Agriculture's ordinance against fishing by certain methods at certain times of the year. In 1952, however, the Government began an extensive program of introducing a new variety of fish, Pla Mor Thed, into rural areas of Thailand. This new variety has been claimed to grow faster than the native varieties. While this program cannot as yet be appraised, a point of observation may be

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226 made that any program of fish raising in a closed pond, no
654 matter how effective it may be, should not preclude the need for conservation of fish naturally existing in the open canal.

243 It has been pointed out that Bangchan operators
226 produce 52 per cent of the things they need for ordinary
433 consumption. Thus, rice growing may be seen as a farming-
434 to-reduce-cost enterprise where maximization of profit ceases to be the primary motive of production. It has been pointed out also that rice growing is a losing concern to many operators (in terms of labor income and operator's labor earnings), but the loss has been compensated by the privilege to fish
[146] which is open to all village residents. Since the amount of fish caught constitutes the main and probably the only source of protein intake and at the same time a considerable share in the diet of villagers, continually decreasing supply of fish therefore underscores the immediate need for an effective program for fish conservation as a means to prevent the standard of living of the villagers from falling below the minimum level of subsistence.

161 Over-population in an area of limited job opportuni-
464 ties naturally creates an over supply of labor, which in
465 turn results in low wages. This is further complicated by a wide variation of individual earning from labor of from two thousand baht annually to almost nothing, the latter being the case of transient members of farm operating families.

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permits sprang up. During 1951 the black-market price for such permits reached U. S. $35 per ton. Officials were obtaining permits for export against commercial contract and promptly selling them in the market. A permit for 10,000 tons meant $30,000 even at the low price of $3 per ton, and when the price hit $20-$30, the temptation to bribe the crucial officials was enormous. Millers were eager to get a cut also, and they were reluctant to make rice available unless they got some kind of a premium.[6]

By 1953, however, the world demand for marketable rice began to decline, and it may be said that the rice trade had shifted from sellers' market bo buyers' market. The primary reason for this decline was the recent increase in production in the deficit countries. As a rice exporting country, Thailand was naturally adversely affected. Her position was further aggravated by high production in Burma which offered lower prices in the international market.

In recent years, the export prices of Thai rice had been steadily raised. For a ton of white rice, 5 per cent broken, it was £47 5s in 1951, £50 5s in 1952, and £55 5s in 1953. The decline of demand forced the government to lower the export prices by £1 - £5 per ton for the first time in 1954, and finally to virtually abolish its monopoly over the export of rice in 1955.

Thus, rice export has now become "free", but actually under rigid rules and regulations especially with reference

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6. Ingram, op. cit., p. 91.

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*243 256 472 Although private rice millers in Bangkok operate with a rather high degree of collusion, in the countryside the many small millers compete actively on the basis of price charged for their services or price paid for paddy or both. The comparatively high capital investment of the enterprise has rendered inter-mill competition in the countryside very intense, and it is obvious that the farmer gains economically from such competition. If somehow the government could, by a carefully conceived gradual program, induce a large number of smaller mills to move from Bangkok to the countryside, the farmer will benefit all the more. Already, the trend has been for gradual business decline for Bangkok mills and business upswing for the countryside mills.[8]

*243 256 656 44 It is rather unfortunate, however, that the government has explicitly taken the view that small rice mills (capacity of five tons and under) in the countryside are detrimental to the interest of the farmer. It is officially held that small rice mills would bring about a large number of middlemen who would then combine to suppress the farm price. Actually, more middlemen tend to produce correspondingly keener competition in the marketing process which is beneficial, not detrimental, to rice growers.

*243 256 433 Small rice mills, which may be more conveniently erected in the villages and perhaps with local capital, will reduce the cost of transporting rice by a third, for about two-thirds of the weight of paddy is head rice, the other

8. The Economic Yearbook, edited by Luan Pannoi, Bangkok, 1951.

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243 256 433 comprising the by-products of milling -- broken rice, bran, and husk. There is still a further saving when paddy is milled where it is produced, for bran would not have to be moved away from the farm as part of paddy to distant mills and then moved back again to the farm where it is bought back to be utilized as feed.

If not hampered by unnecessary government restriction, small rice mill industry will provide opportunity for local investment to which internal savings among affluent farmers may be channelized. The relatively low capital requirement and the simplicity of operation of small movable rice mills have made it possible for many Thai farmers in the northern part of the country to become successful rice millers, and there is no reason to believe that farmers in the Central Plain cannot do likewise.

Scarcity of Cash and Credit

434 4-58 An important factor contributing to the acuteness of the basic economic problem of Bangchan is the scarcity of both cash and credit in the village. Bangchan farmers receive cash from the sale of paddy in two periods -- from January to March, and from July to October. Most sales are expedited in the first period, when rentals and credit accounts are expected to be settled. Farmers also need cash for the purchase of goods they have forgone during the previous work season when they had little or no cash. Since there will be no sale of paddy during April - June when paddy cannot be moved through the shallow water level

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CHAPTER IX

CONCLUSIONS

*243 *128 • 433 In Chapter VIII, we have tried as far as we could to locate salient features of current economic problems of Bangchan, in an attempt to achieve the primary purpose of this dissertation. It is seen that those problems which have been brought to light by available evidences center around low incomes and excess of expenses over receipts. This basic problem is aggravated by population pressure, the lack of effective control of water, complications of the postwar marketing of rice, and the scarcity of cash and credit in the village.

It is seen also that those various points brought out in Chapter VIII have aspects of geographical, technological, social, institutional, and even personal nature. *243 433 On the whole, however, they are interrelated and often integrated. The problem of low incomes, for example, is closely associated with those of population pressure and limited earning opportunities, both of which are affected by soil and water conditions. These have been rendered more acute by suppressed farm prices brought about by the postwar marketing conditions. As a result, expenses tend to exceed incomes -- a condition leading to scarcity of cash

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and credit, which in turn has caused the rates of interest to be rather high. High rates of interest discourage investment, forcing the farmer to rely solely on returns from rice which is not purely a business enterprise but also a way of life. Rice production is affected by the lack of effective control of water and the small size of the farm which is limited by population and other job opportunities. Low production and relatively low prices of rice result in low incomes, thus completing the circle.

This sort of circular relationships by which the perpetuation of poverty of rice farmers in the Central Plain of Thailand may be explained is known as the vicious circle of poverty. Already, we have uncovered the conditions circumscribing this vicious circle. The task ahead is to break this circle and create an economic environment necessary for the attainment of rural prosperity.